Joint Polar Satellite System (JPSS)

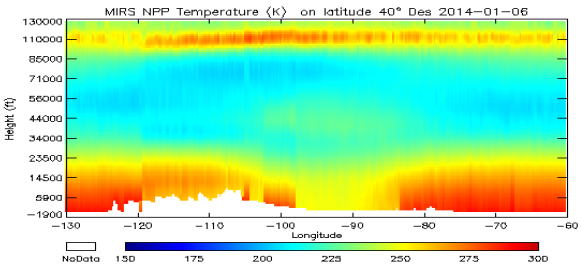
JPSS SCIENCE AND USERS

Mitch Goldberg
Program Scientist

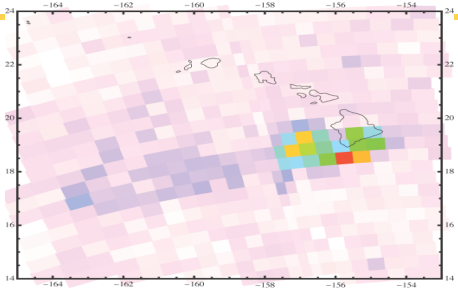
Joint Polar Satellite System
National Environmental Satellite, Data, and Information Service
U.S. National Oceanic and Atmospheric Administration
U.S. Department of Commerce

JPSS provides a wide range of capabilities

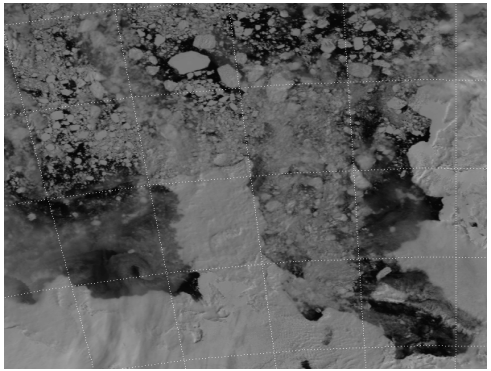
- Microwave – provides temperature and moisture soundings in cloudy conditions and rainfall rates, sea ice, snow, surface temperature - ATMS
- Infrared – provides high vertical resolution temperature and moisture soundings in clear and cloud corrected regions; atmospheric chemistry - CO, CH4, SO2, … and cloud products - CrIS
- Visible (day & night) and Infrared Imagery (including deep blue channels) – chlorophyll, cloud imagery, cloud products, SST, Active Fires, Smoke, Aerosols, land products, Snow, Ice, oil spills… at exceptional resolution/global coverage - VIIRS
- UV - ozone - Aerosols over bright surfaces, SO2 plumes, NOx (air quality)… - OMPS

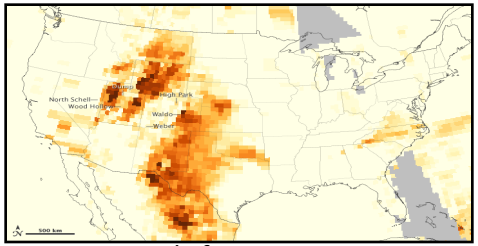


Temperature X-Section Polar Vortex

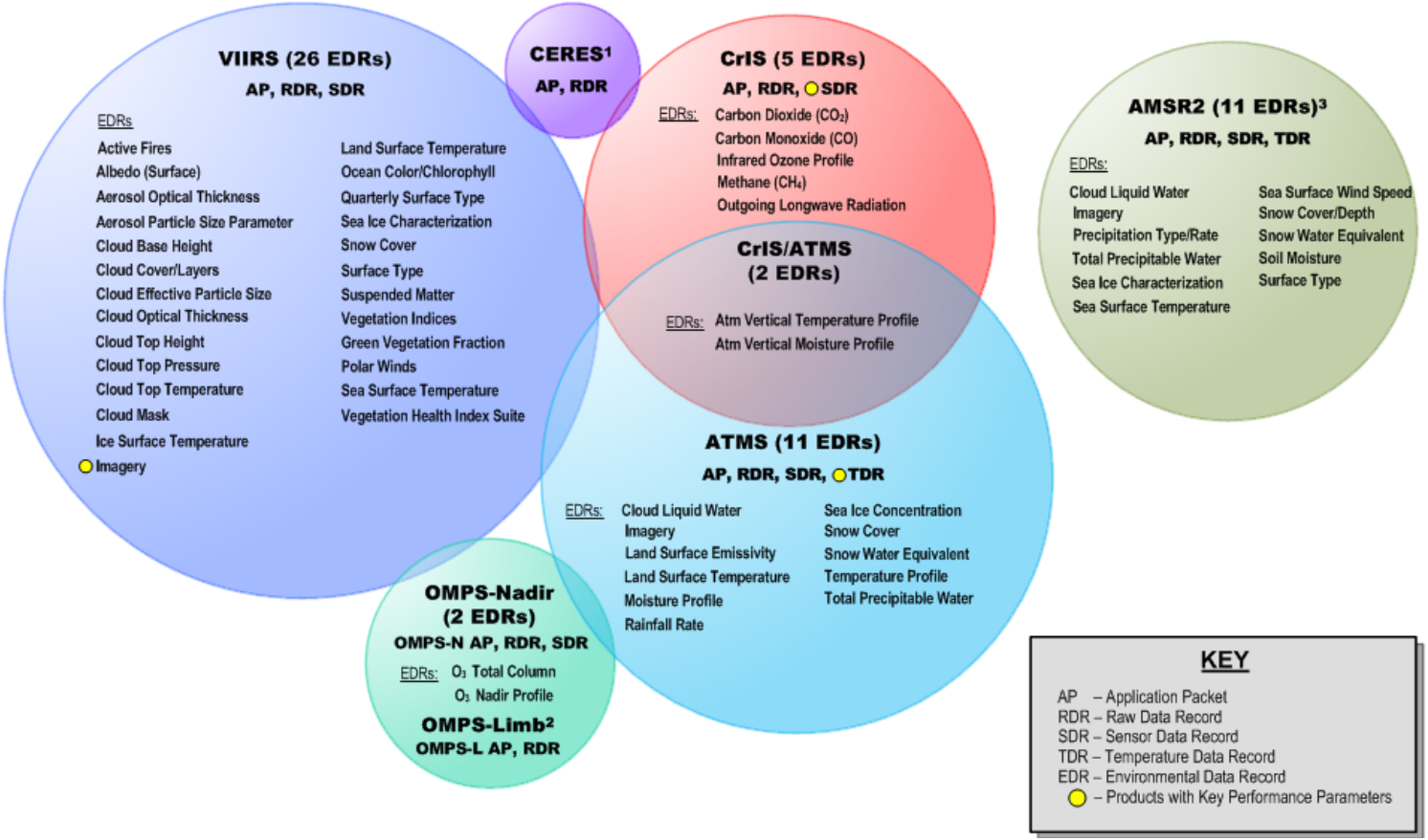

OMPS- Volcano SO2 degassing


Algae in Lake Erie

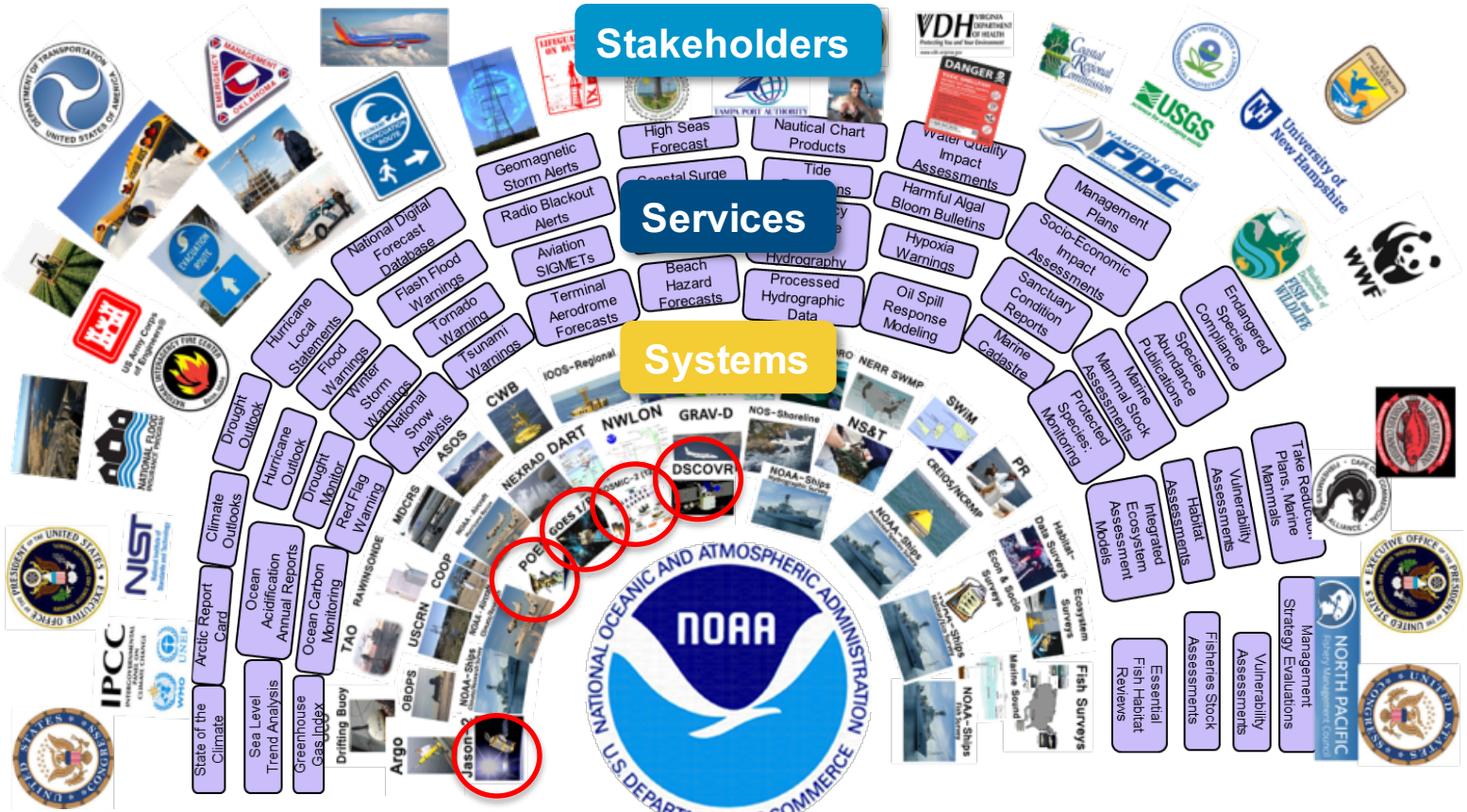

DNB Ice detection


OMPS Aerosols from Fires

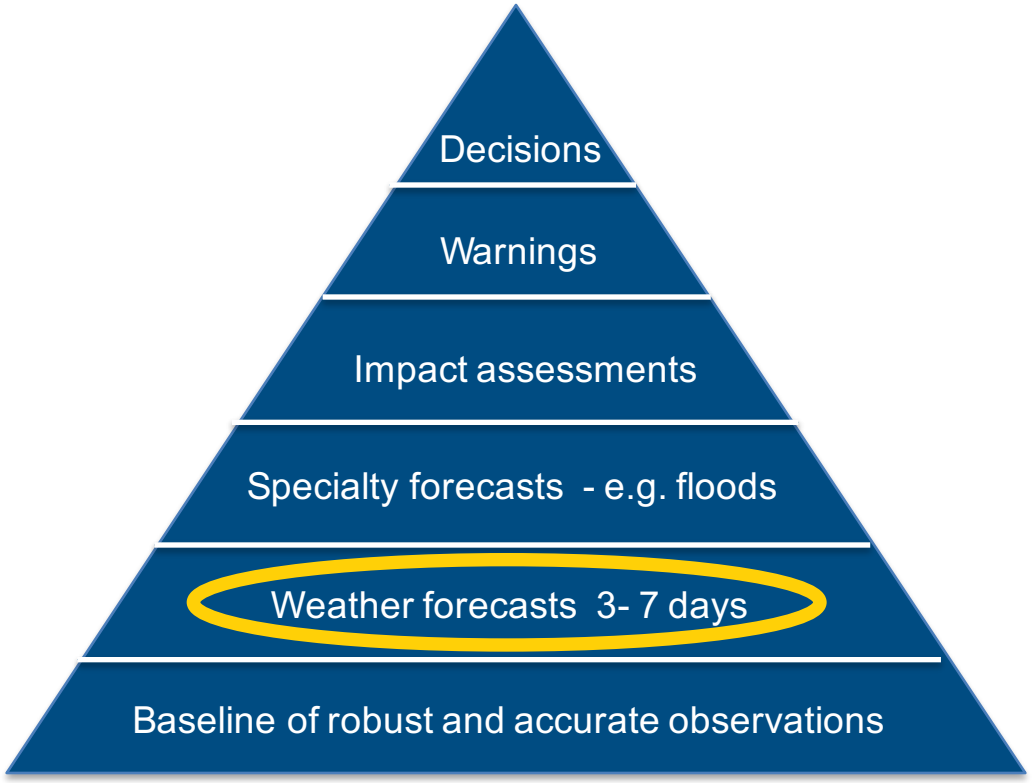
JPSS Program Data Products

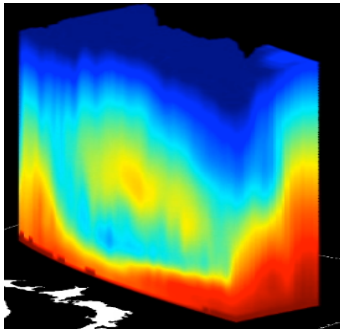


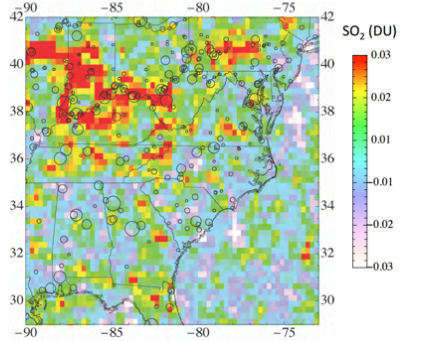
The NOAA Network

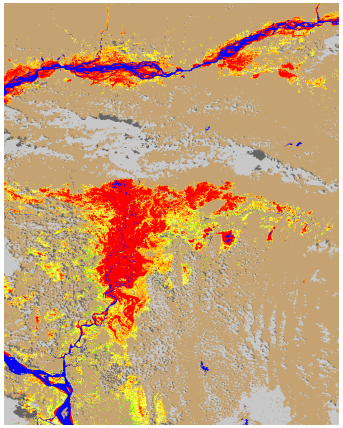


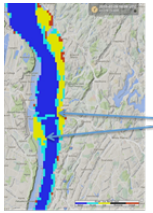
NESDIS Science User Engagement Proving Ground Program focuses on Applications and Decision Support for NOAA Service Areas and Partners



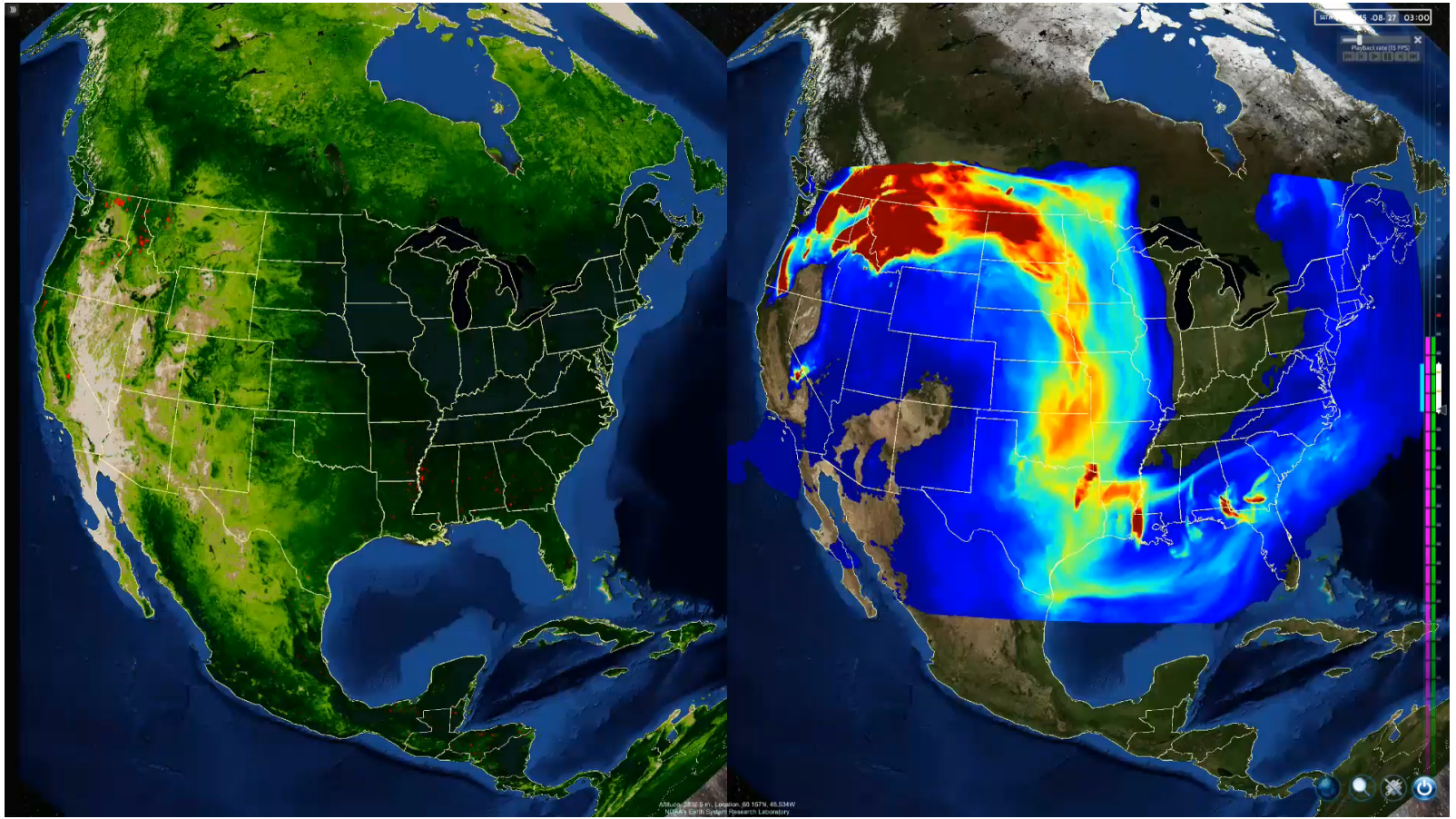






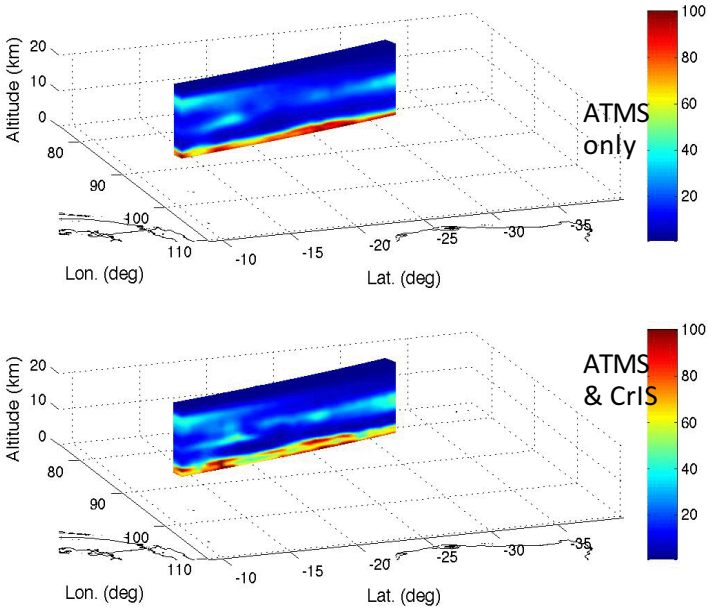


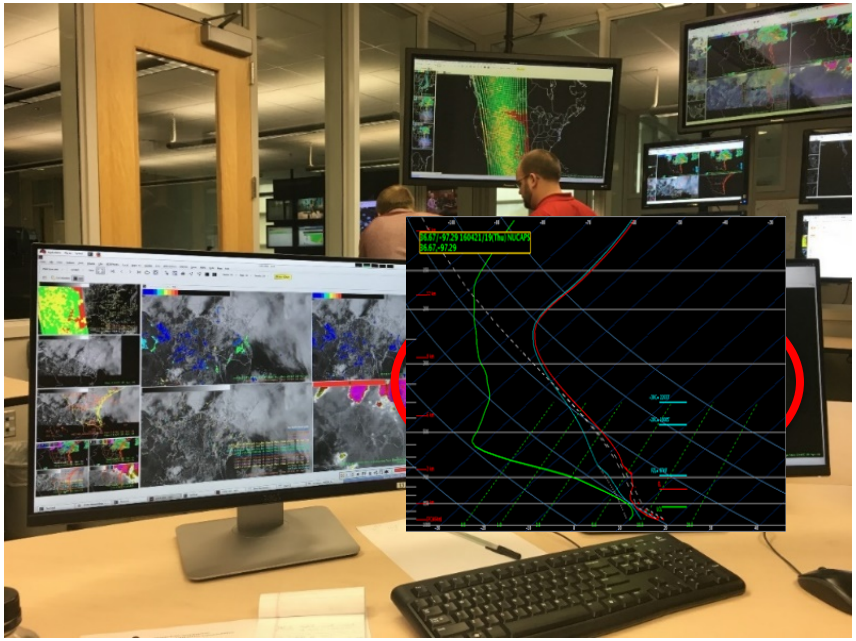
VIIRS fire location/FRP to smoke forecasts



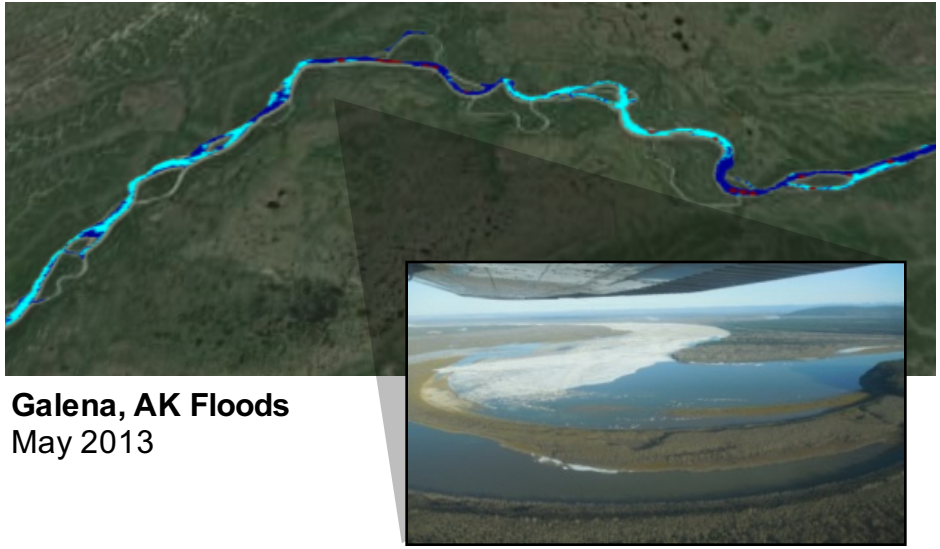
NUCAPS Initiative

Relative Humidity Vertical Slice

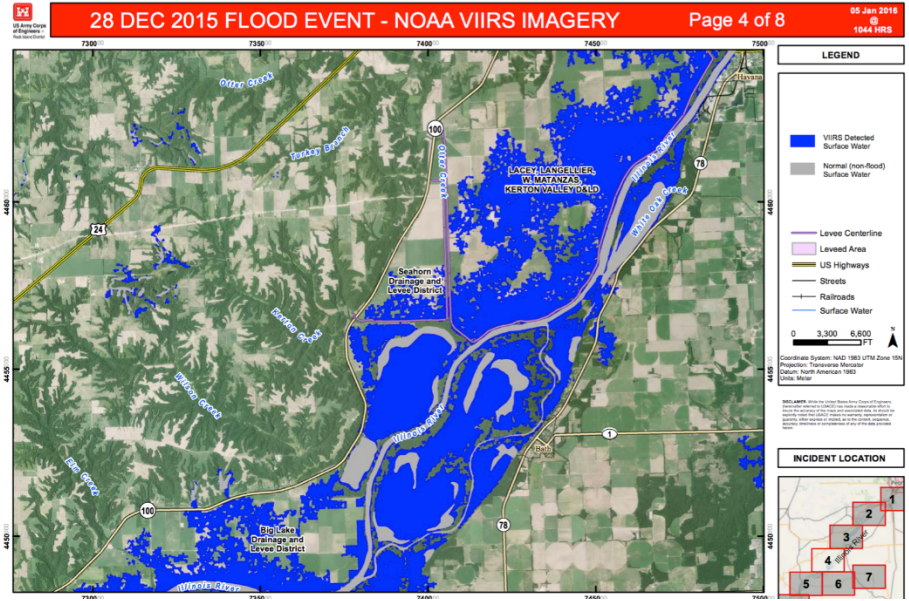




Flood and River Ice Initiatve



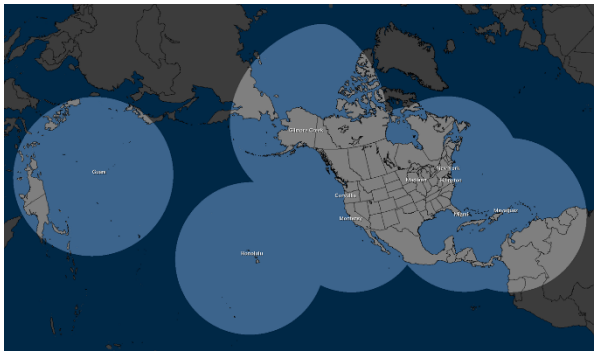
Galena, AK Floods
May 2013

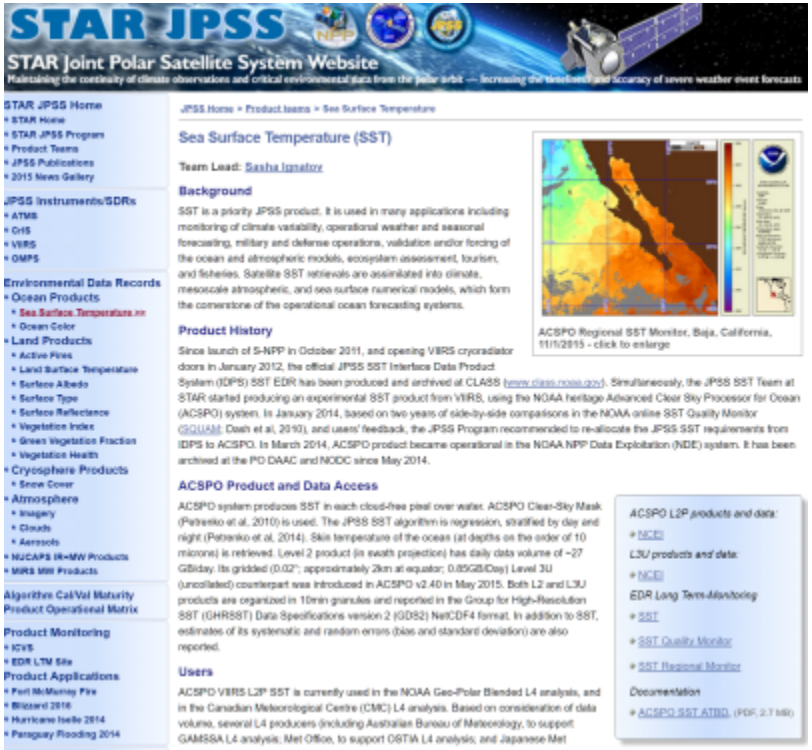


- VIIRS can identify river ice jams which can lead to large flood events
- Flooding from ice jams can occur in a very short time
- Flooding can occur from snow melt and heavy rains

Foundation to Proving Ground

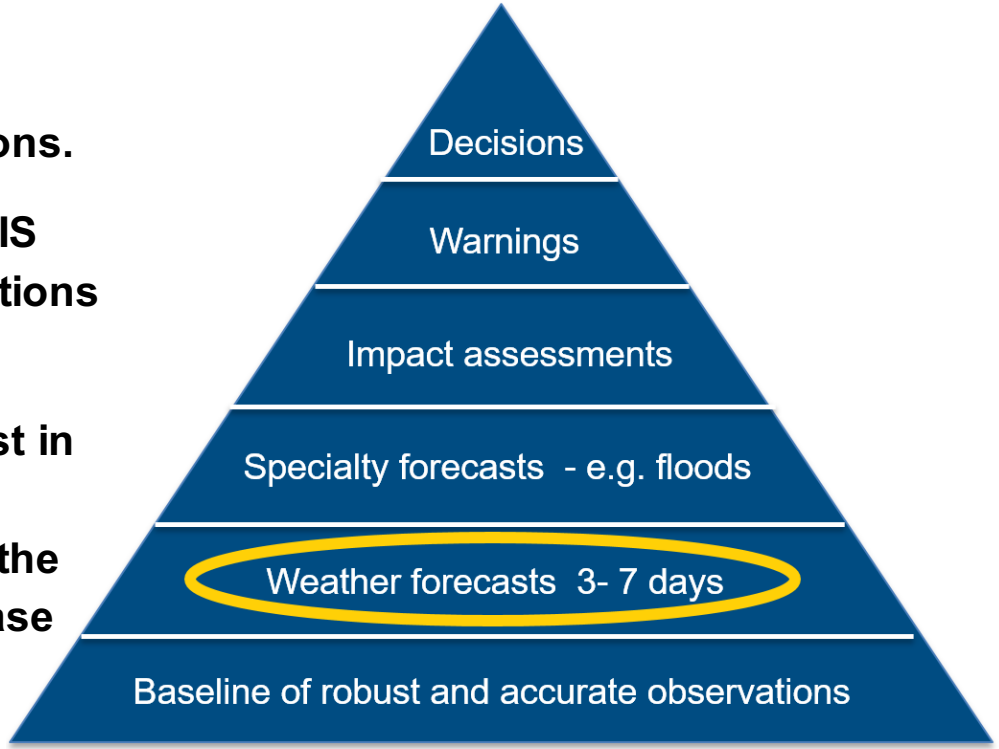
- Enterprise algorithms and Cal/Val Program
- Direct Readout Capabilities – CSPP
- STAR R&D Services
- User workshops and Training
- Management commitment
- Innovation





Summary

- **Research to Operations is more than developing new products and transitioning them to NESDIS Operations.**
- **Its more about the utilization of NESDIS Operational Products by User Applications (fire products in NWS smoke models).**
- **Every satellite program needs to invest in a User Readiness Program (Proving Ground) because the goal is to reach the top of the pyramid even though the base of the pyramid is extremely important.**



Thank You!

www.jpss.noaa.gov